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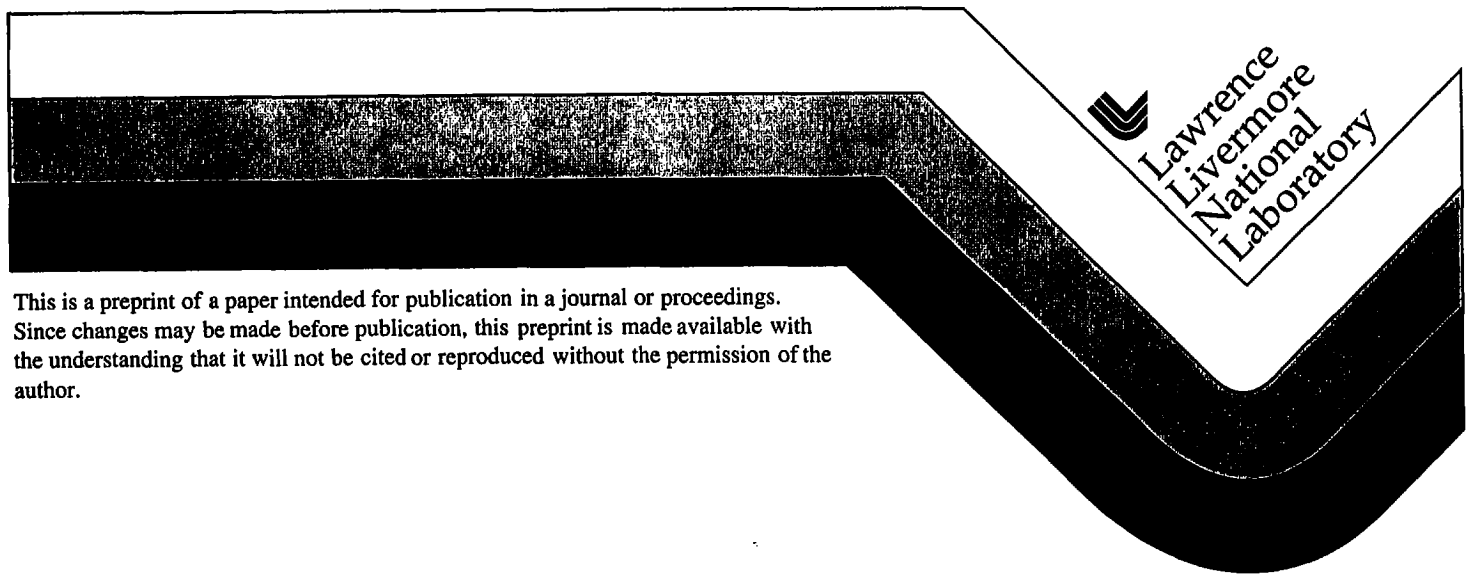

Effective Export Control

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At the current time, the principal barrier to nuclear proliferation and all its dangers for the world is the difficulty for a potential proliferator to obtain nuclear materials. The Non-Proliferation Treaty is an agreement that those nations who do have nuclear materials to not provide them to proliferator nations. This leaves two routes open for proliferators to obtain nuclear materials: clandestine methods such as theft and smuggling, and production of them within the proliferator nation. Counter-nuclear smuggling efforts combat the first; export control combats the second. A proliferator who obtains the capability to produce nuclear materials very likely represents a worse threat to instability than does one who obtains a finite amount clandestinely. Thus, export control is a crucial and critical process that is vital for maintaining world stability.

Nuclear proliferation has a variety of dangers for the world, including a higher probability of nuclear conflict, nuclear threats, loss of nuclear materials or weapons to terrorist groups, nuclear accidents, and further proliferation. Each of these is a major danger in its own right, and combined they present a threat that should occupy a high place in the list of priorities of major nations.

Export Control Violations

Export control is a complicated process, as it serves to identify critical equipment and materials needed to produce nuclear materials by the several methods possible, and then to prevent potential proliferators from obtaining this equipment and materials by controlling their export from countries possessing them. The two routes by which potential proliferators can obtain this "bottleneck" equipment is via errors on the part of exporters, who export these items without knowing their destination and use, and via conspiracy between the supplier of the items and the recipient. Traditional export control procedures concentrate on the first route, under the assumption that the very large majority of suppliers have no desire to break the rules of export control and assist a proliferator. Instead, they need assistance in identifying situations that could lead to an export control violation.

The second situation, that of a conspiracy between a supplier and a proliferant nation, is certainly likely to be less probable. However, it is also harder to detect and prevent, and adequate thought and preparation needs to be given to that aspect as well as to traditional export control.

For traditional export control, national authorities need to ensure that all export controlled items which might appear in their nation are on the national lists of export controlled items. They need to ensure that manufacturers, distributors, shipping brokers, and transporters are aware of these lists and how to identify items on the list when they appear in requests for export. Because of the wide variety of this "bottleneck" equipment and materials, this is a difficult database and training problem. It is solved by having government officials who are involved with export regulation, that is, export control and customs specialists, familiar with the items involved, and by having outreach programs to provide education on export control to all others in the commercial sector who might be involved with export control items.

In the conspiracy situation, outreach programs are fruitless, and reliance has to be on export document examination and the search of exported goods at the border or during packaging. A partial conspiracy, in which the shipping agent is not part of the conspiracy, has the additional avenue for detection by an employee of the shipping agent, provided that they have the ability to inspect the goods in unsealed form before shipment ensues. Of course, suspicion plays a large role in determining which export items are inspected and have their designated descriptions challenged.

The worst case situation is when there is no export license applied for, so that opportunity for challenge does not exist. This situation is like that of nuclear smuggling, where the entire responsibility for interception rests on the Customs service. Customs agents need to be able to recognize situations calling for inspection, and then to recognize items during the inspection which might be export controlled. Unlike nuclear smuggling, there is no characteristic radiation signature and no radiation detection equipment that can be used to assist the customs officer in his selection and recognition process.

Cooperation between Business and Government

Attitude is an important aspect of export control. Countries where there is a positive and cooperative relationship between those companies and organizations involved with export and those government agencies involved in regulating it have more effective export control. Such relationships both reduce the motivation that an exporting company

will want to engage in a conspiracy to violate export control laws and also provide the government with avenues of information. Exporters often know one another, and have the ability to obtain clues as to smuggling that government agencies might not obtain. Thus, a major priority for effective government control of clandestine violations of export control violations is to ensure that legitimate export processes are done in an effective and expeditious manner.

This cooperative attitude involves both sides, business and government, taking positions and actions to promote cooperation. Government agencies can expect from export organizations that they do four things. First, the organizations need to make their employees aware of export control laws, how they apply to that organization, and what is expected of the employees. Second, the government can expect that care be taken in the preparation of export documents and especially of export control license applications. Government offices are often minimally staffed, and facilitating processing of applications by providing accurate and fully informative applications promotes further cooperation.

Third, government agencies can expect to find further sources of information readily available. This permits investigation of those license applications requiring detailed scrutiny to be done quickly. Such information can take any form, such as up-to-date catalogs with specifications or websites containing product information in a user-friendly format. Lastly, the government can expect that larger companies take measures to ensure internal compliance. Specifically, one danger for export control is that a group of employees can use the facilities and paperwork process of a large company to conduct a clandestine export trade. Internal compliance procedures need to be set in place and an adequate number of checks and monitor opportunities maintained so that the likelihood of an internal conspiracy is negligible. This of course serves to greatly increase the confidence of the government that an export from a company with such controls is legitimate and properly described in the license application. With such confidence, exports are expedited, saving in the costs that would be created by delay.

The other side of the coin is the expectations that export companies have of government agencies involved with the regulation of export trade. Very simply expressed, they can expect to not be put at any disadvantage compared to the suppliers in other countries because of excess delays and processing costs created in the export licensing process. In other words, they can expect efficiency and accuracy in the licensing process, provided that the information needed in properly provided. They can also expect full information on the requirements and regulations that are in force. Government agencies need to set

up channels so that their regulations can be easily obtained in a timely manner by export companies. These channels can be as simple as mailing lists, or as sophisticated as web-servers able to search regulations and export databases for information. Next, exporting organizations can expect that any proprietary information provided to the government as part of the export control process will be closely held, and not permitted to fall into the hands of their competitors. Lastly, export agencies can expect that regulations and the enforcement of regulations will be such so that export violators can not achieve any advantage. With minimal fines or other results from export control violations, there will be strong competitive pressure to evade these regulations. This would effectively destroy the cooperative relationship that is very important for good export control enforcement. It may appear contradictory, but strong and effective law enforcement can lead to a better relationship between government and those export agencies that are dedicated to compliance. Lax enforcement is not a means of promoting business success and is not a means of improving the economic situation in a country; it is an invitation to non-compliance and undermines the relationship between government and business. This is not to say that there must be a strong reaction to innocent and infrequent errors. What it means is that deliberate or negligent violations will result in very severe consequences.

The opposite arrangement, where there is no good relationship between government and business, is a recipe for disaster. It invites errors made on both sides, including errors in requesting export licenses resulting in delays and economic losses and errors in blocking exports that do not deserve to be blocked, resulting in more economic losses or legal actions. Worse, it is an open door to export control violations, where the export control process breaks down. The maintenance of an effective and efficient export control relationship between government and business is the fundamental precursor for export control enforcement. With such a relationship in place, dealing with non-compliance becomes feasible.

Levels of Non-compliance with Export Control Regulations

Three levels of non-compliance might be singled out. They require different means of control. The first level is when a license application is filled out for an export item listed under export control, but the application is deceptive, in listing a false destination, end-use or end-user. The second level of non-compliance occurs when an item properly falls under export control regulations, but it is masqueraded as another item that does not fall under export control regulation. In this case, the shipper does not initiate the export control process. The third level of non-compliance is when the item is not listed as an export, but is simply smuggled out of the country. These can be done by companies of

various sorts, such as shippers or brokers, by illegal organizations, or by individuals or conspiracies operating within legitimate enterprises.

The procedures for combating each of these are well-known. Falsely filled out applications can be detected if the export control organization has access to its own information sources. Masquerade is detectable only by physical inspection of the item, by a customs officer or other official or perhaps an employee of a shipping firm, when these individuals are sufficiently aware of the technology to raise an alarm and have the item identified by specialists. Illicit transport out of a country is a border control problem, and control of it is no different that border control versus other smuggled items, such as drugs, weapons, immigrants or countless other items. The only difference is that nuclear technology can have a more severe impact on society if it leads to nuclear device use.

Resource Needs for Export Control

These non-compliance events have to deal with using limited resources, and therefore it is an important point to consider how to best use resources to combat each of the types of non-compliance. Databases and expert resources are two very important resource multipliers. In the first situation, where licensing officials must determine the validity of a license application, having databases on the world economy, that is, on world business corporations, shippers, brokers, distributors and all others connected with export or use of export controlled items and having those databases organized and accessible reduces the manpower and man-hours needed for a competent license review, and therefore promotes the important factor of good government-business relations. These databases need to cover the full range of goods produced within the nation, and likely to be transiting through it. For the latter goods, international sharing of product databases is clearly an efficient method of building up the necessary database within each country's export control organization.

These databases need to be available in both the licensing office, and also the license verification office, where goods are inspected and sealed for export. Having communication between the two allows data that has been gathered as part of the license granting process to be used to buttress the license verification process.

The databases have to be able to answer questions concerning the routing of shipping, such as is the routing chosen reasonable from a time or cost standpoint; concerning end-user, such as their history, trading partners, ownership, subsidiaries, product line, financial status; concerning end-use, such as are the specifications of the item chosen for

export commensurate with the use that it is being planned for, or are they excessive to a suspicious degree.

The other resource needed by government agencies for efficient export control is on-call experts. These experts need to be available to both contribute to the interpretation of the license application, and the recognition of goods being packaged for transport. Their expertise needs to span the whole range of export control, and there also needs to be available, for expert use, one or more laboratories that can quickly make determinations about the materials being exported. These laboratories need to be able to discriminate between materials that are export controlled, such as Li^6, and non-controlled items, such as natural Li. These laboratories are often part of a nation's forensic capability.

Expertise is needed for evaluation of the options for use of both export-controlled instruments and equipment, and instruments and equipment outside export control limits by reason of specifications. For example, numerically controlled machinery that is outside the specifications for export control may be below these limits for several reasons. One might be the mechanical tolerances of the equipment, which is something that can not easily be modified by an end-user. Alternately, it might be limited by computer capability, which could be modified. Such modifiable equipment requires more scrutiny in licensing. Trade secrets, which would enable a potential proliferator to more easily build his own export controlled equipment, are also limited by export control. Expertise in instrumentation, that would allow an export control expert to interpret if such trade secrets can be extracted from the instrument itself, assists the export control process. Further scrutiny on documentation of various sorts is needed to prevent such leaks of trade secrets.

The export control laboratory or laboratories can be located in any of three possible facilities: in a government laboratory, in a laboratory run by a contractor for export control purposes, and in academic laboratories. Because of the need to do fast and accurate evaluations, government laboratories are often preferred. However, the cost of equipment to cover all aspects of export controlled materials may be large, and the other two options might save funds.

From this discussion, it is clear what a configuration of trained personnel and facilities are necessary for effective and efficient export control on the government side. That configuration includes licensing specialists, with their databases capable of interpreting license application details, technical experts to comment on the potential for misuse of equipment, sales experts in the commerce community for the interpretation of end-user

information and customs experts in inspection facilities where goods that receive a license may be inspected to ensure that there is an exact correspondence between what was claimed on the license application and what is actually being shipped. Of course, behind all this stand the border control forces that combat illicit traffic, including export controlled items. Also supporting these personnel are the judiciary and law enforcement personnel who prosecute deliberate violations of export control laws. Note that without careful and serious enforcement, all the work listed above becomes fruitless. When there is no economic incentive for a company to fulfill export control requirements, and to cooperate in assisting the government to enforce them throughout the spectrum of enterprises in the nation, there is little point in developing the complex structure noted. It will be bypassed.

On the other side, the resources that a company needs to put in place to establish an effective and efficient export control department include trained specialists, able to work with the marketing team to establish accurate information on customers for export controlled equipment. There needs to be, located somewhere – perhaps in the manufacturer's facility – technical experts to explain the technical specifications and expand upon them as needed in the licensing and inspection procedures.

With both of these complexes in place, an efficient system for export control can work, and can work across the board. Because of the evolving nature of technology, it is not enough to simply establish such complexes. There need to be national centers to continue investigation into export control so that new technology can be introduced into the lists or into the category of informally controlled items. The centers also need to continue to advance the technology of identification, including databases and forensic equipment. And they also need to be in the forefront of training. Export control is high technology, and the understanding of high technology is not universal in government departments, shipping companies, and elsewhere where exports are involved. The training requirements are wide and diverse, and a cadre of training experts needs to be involved in such developing and promulgating it.

Summary

In summary, effective control is a major national enterprise, especially in a nation capable of manufacturing export controlled items. A fundamental, but intangible, requirement is the relationship between government and the commercial sector. In order for export control to work smoothly, and not cause excess losses to businesses involved in exporting controlled items, business and government both need to establish complexes of personnel, facilities, training, and databases, and both need to operate from a basis of

cooperation, not within an adversarial situation. This motivation to cooperate needs to be grown continuously in each interaction between government and business. Behind everything needs to stand the enforcement team of border patrol forces, police investigators, and the judiciary, but business need never interact with these units, only to know that they are in place and working effectively to prevent competitors from evading export control requirements. Of course, there also needs to be widespread international cooperation to prevent businesses in one nation from competing without export control limitations with businesses in others where such laws are enforced. With these underpinnings, export control can work, and can bring us through the twenty-first century with a minimum of nuclear proliferation and nuclear weapon problems.

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